Tim Wilkinson
75 Spring Ridge Dr.
Great Falls, MT 59404

November 15, 2016

Brian Clifton, Public Works Director
Cascade County Zoning Board of Adjustment
Planning Division
121 4th St. No., Suite 2H/I
Great Falls, MT 59401

RECEIVED NOV 15 2016

RE: Fox Solar
HAND DELIVERED

Dear Mr. Clifton,

I am submitting for the record the following attached documents:

1. **Study conducted by J. Michael Joki, MAI, SRA** addressing specifically the property in question, and it is his determination that the "analysis" submitted by Cypress Creek is based upon facts distinctively different to the facts of the Fox Solar location. In particular, he concludes that even if Mr. Kirkland did not find any impact on property values in other locations it does not mean that there won't be a significant effect in property values in the unique Fox Solar location. He also cites the Greg Moore study which concluded that a "solar farm would have a negative impact on specify property values in cases where the nearby property has exceptional, unblemished views..."

2. **Study conducted by Bruce Forde, MNLA** concluding that a landscape buffer would take between 21-90 years to screen the proposed solar plant. For example, the property directly adjacent to the proposed solar plant at 5510 Fox Farm road would take between 39-59 years. Further, he concludes that expecting trees to survive by initial hand watering in our area is unrealistic. Mr. Forde's study is important since Mr. Kirkland's own analysis depends heavily on sufficient landscape screening.

3. **Gregory Moore letter conclusion page** initially submitted but pulled from the application and not included in the original staff report. It is also not included in the current application. Please note that Mr. Moore concludes [highlighted for reference] that where there are exceptional views "a solar farm would have a negative impact on specific property values..."

4. **Original Tim Moore letter,** submitted by Cypress Creek but not included in this application. Mr. Moore indicates that the Portage site is "much more typical of the sites noted in Mr. Kirkland's report..." [highlighted for reference]. Consequently, Fox Solar is not typical of Mr. Kirkland's study. Mr. Moore also notes that effective "landscape screening was also typical" and "was used to mitigate any potential adverse impact" at the sites studied by Mr. Kirkland.

5. **Presentation by Kurt C. Kielisch, ASA, IFAS, SR/WA R/W-AC, President and senior appraiser of Appraisal Group One.** Mr. Kielisch surveys the research on wind turbines and property values and comes to the conclusion that there is loss of 43% of property values for bordering residential property values. Further, he indicates a loss of 36% of property values for residential property close by and even a loss of 29% for "property near by." Cypress Creek has submitted wind turbine studies in support of its assertion that property values are not impacted by solar power plants. However, wind farms in Montana are on large rural property distant from residential property making this study more applicable to the Fox Solar location.

6. **Power point presentation** contrasting Mr. Kirkland's report from the facts present in the Fox Solar proposal.

Thank you for including these items in the record and the staff report.

Sincerely,

Tim Wilkinson

JOKI
& ASSOCIATES
Real Estate Appraisers

J. Michael Joki, MAI, SRA

July 21, 2016

Tim Wilkinson
56 Spring Tree Road
Great Falls, MT

RE: Proposed Fox Solar Farm in Great Falls, MT.

Dear Mr. Wilkinson,

Per your request I have reviewed a number of documents you provided me and I will provide my opinion of how the data in these documents could pertain to the proposed Fox Solar Farm that would be located in the 5300 block of Flood Road in Great Falls, MT. The scope of work involved a review of the documents provided to me, viewing of the proposed Fox Solar Farm site, and a viewing of nearby properties. The purpose of the review of the documents is to give my opinion of there pertinence to the Fox Solar Farm site in Great Falls, MT. The intended use of this assignment is to assist my client, Tim Wilkinson, with decisions regarding the proposed Fox Farm Solar development. The effective date of this assignment is July 21, 2016. I have not been asked to assign any value to any specific property, and I have not done so.

As I understand the Fox Solar Farm will have a +-30 acre footprint of solar panels on a site being leased from Dave and Andrea Pierce. The adjoining land is a mix of rural residential and limited agricultural use, and land closest to the proposed site is near 3,400' elevation and the surrounding hillside sites are at 3,500' to 3,700' elevation. The proposed site is on the east side of Flood Road, north of Dick Road and south of 45th Avenue SW in a relatively low lying area.

I was provided a copy of a study completed by Richard C. Kirkland, Jr., MAI from Raleigh, North Carolina. Mr. Kirkland's study was completed for a proposed solar facility in Oregon with the purpose to determine if there is any impact to the surrounding properties due to this facility. Reportedly Mr. Kirkland has visited approximately 200 solar projects around the country with many being near his home state of North Carolina. Mr Kirkland uses paired sales analysis to support his findings with very extensive research at four different locations. It is very obvious there is much more market data readily available in the North Carolina area than here in Montana

because solar farms are a relatively new industry or property type to our state. None the less, Mr. Kirkland was able to conclude that he found no supportable impact to property values in the areas he studied. As noted in the Kirkland study, in more densely populated areas setbacks and landscape screening is being used to mitigate any potential adverse impacts to surrounding properties. I was provided a copy of the letter completed by Tim Moore from Moore Appraisal Firm in Helena, MT. Mr. Moore has reviewed Mr. Kirkland's study and stated that the Portage Project, another proposed site in Great Falls, is much more typical of the sites noted in Mr. Kirkland's report.

The next document I was provided is a copy the Kirkland consulting report completed for the Fox Solar site itself. Mr. Kirkland briefly describes the proposed use of this facility and then concludes through his matched paired analysis of data extracted from the Oregon, North Carolina and Texas markets that there should be no impact to the property values surround the Fox Solar site in Great Falls, MT. Mr. Kirkland's conclusions from the other market areas appears to be well supported but do they necessarily translate to the real estate market in Montana.

Next I was provided a copy of the court of record's decision upholding the Board of Adjustments decision in the matter of Dellinger vs. Lincoln County, State of North Carolina. In this decision it is noted that opponents to a solar farm application presented evidence from Clay County, NC showing assessments on 19 properties in a neighborhood adjacent to a solar farm were reduced by 30%. Like Mr. Kirkland information, this may or may not directly apply to our local real estate market, but does show an example of where there is an impact to value from a nearby solar farm. Furthermore, in this same decision, two appraisers submitted testimony that higher priced home buyers are pickier and thus more apt to view "ugly" views more negatively than a moderate price home buyer. I did interview the appraiser Geoffrey Zawtocki to confirm his comments.

Next I was provided a copy of the consultation completed by Greg Moore, MAI of two proposed solar farms in Bend, Oregon. In this report Mr. Moore identifies a number of solar farms in the Pacific Northwest and addresses potential impact issues. Mr. Moore concludes that solar farms are likely to be compatible with adjoining residential and agricultural uses, however he noted that a solar farm would have a negative impact on specific property values in cases where the nearby property has exceptional, unblemished views of the Cascade Mountains or a river. Obviously a view of the Cascade Mountains are specific to the Bend, Oregon area. But, views of the High Wood and Little Belt Mountains to east, the rolling hills and valley to the west, and the Missouri River to the south of the proposed Fox solar facility in Great Falls, MT would be pertinent.

It is no secret in the real estate industry that higher priced home buyers tend to be more sensitive to issues like view impairment, proximity to incompatible sites, proximity to interstates or airports, etc. The homes located in Henry's Lane, Spring Tree and Lark Spur developments have values that range between approximately $300,000 and $1,000,000. These developments are elevated anywhere from 50' to nearly 300' above the proposed Fox Solar site and look directly onto this area. I spoke with Bruce Forde, from Forde Landscaping and reportedly the landscape plan for this development will only provide minimal mitigation. Apparently the ponderosa pine

trees will be planted 90' apart and will be in-filled with shorter trees and shrubs which may suffice for ground level mitigation but does not account for the change in elevation for those home in the aforementioned residential subdivisions located above and directly to the West.

As shown in the Cascade County Zoning Regulations the site for the proposed Fox Solar facility is zoned SR-1 Suburban Residential. It is my understanding the proposed use of this site could be allowed as an Unclassified Use as shown on page 159 and 160 of the regulations. As explained in the Considerations section "a proposed development will not substantially impact the value of adjoining properties, and a proposed development will be in harmony with the adjoining properties". In the case studies provided to me the solar farms being studied were typically found to be harmonious with the surrounding uses but in many cases they were well surrounded with mature landscaping and often out of view. In the case of the Fox Solar site without significant landscape mitigation surrounding this site the nearby hillside home sites will have a direct view of the facility and over time this may influence market values. The aforementioned appraisers who have conducted these studies must have found this to be an important factor because view/appearance is addressed in each of the studies.

It has been extensively discussed there is no paired sales data from the Montana market to analyze because solar facilities are simply still new to this market. But, just because market participants in other real estate markets show little to no impact from a solar facility does not necessarily mean that will be the case here in Great Falls under these circumstances.

Reportedly there are approximately 65 homes and 140 residential lots within a ½ mile radius of the proposed Fox Solar development and I would caution those making decisions about this facility to simply apply the findings in the other solar facility studies to the Great Falls market. I'm not saying these studies are not well researched and not applicable to their own appraisal problem but the issue of view/appearance in these studies may not directly apply to the situation here in Great Falls, MT.

I have been appraising real estate for 29 years and found when appraising unique properties market data from other markets may have to be considered. Every county, city and state has its own set of influences and as long as "apples are being compared to apples" the market data can be reliable and applicable to the appraisal problem at hand. However the influences, wether they are physical or economic, have to be properly addressed applied to the appraisal problem.

If you have any further questions regarding this matter please feel free to call.

Sincerely,

J. Michael Joki, MAI, SRA

Certification

I CERTIFY THAT:

1. The statements of facts and data used in this report are, to the best of my knowledge, true and correct.

2. The reported analysis, opinions and conclusions were developed and this report has been prepared in conformity with the requirements of the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute, which includes the Uniform Standards of Professional Appraisal Practice.

3 The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.

4 As of the date of this report, I, J. Michael Joki, have completed the requirements of the continuing education program of the Appraisal institute and those of the Montana State Board of Real Estate Appraisers.

5 Regarding the competency provision of USPAP, I further attest that over the past 29 years I have written appraisal and review appraisal reports for clients that pertain to various locations and various property types in Montana.

6 I have personally viewed the subject property. I have performed no services, as an appraiser or in any other capacity, regarding the property that is the subject of this report within the three year period immediately preceding acceptance of this assignment.

7 I have no direct or indirect present or contemplated future personal interest in the subject property beyond my responsibility as a review appraiser.

8 I have no bias with respect to the property that is the subject of the report or to the parties involved with this assignment.

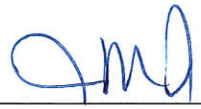
9 Neither my employment or compensation is contingent on an action, event or value resulting from the analyses, opinions, or conclusions contained in this report.

10 My conclusions have been reached independently based on the report and other data of record without collaboration or direction, except as outlined within the attached remarks.

11 No one provided significant appraisal assistance to the person signing this certification.

14 I am currently licensed in the State of Montana (Certificate #152) as a Certified General Real Estate Appraiser.

Date: July 21, 2016

Signature: 

J. Michael Joki, MAI, SRA

J. MICHAEL JOKI, MAI, SRA
State of Montana, Certified General #152
P.O. Box 281
Helena, MT 59624

APPRAISER'S QUALIFICATIONS

EMPLOYMENT: January 1992 to present; Employed by Joki & Associates, a general practice real estate appraisal firm.

July 1987 to January 1992; Employed by Peyton & Peyton, Inc., a general practice real estate appraisal firm.

June 1986 to September 1986; Employed by Gerald D. Peyton, SRA, Fullerton, CA, as an appraiser trainee.

EDUCATION: Bachelor of Science degree in Business Administration, Management major, Montana State University, Bozeman, MT, June, 1987

Specialized Real Estate courses:

Market Analysis and Highest and Best Use:
Appraisal Institute, May, 2014

Report Writing and Valuation Analysis:
Appraisal Institute, October, 2000

Advanced Applications:
Appraisal Institute, October, 2000

Advanced Income Capitalization:
Appraisal Institute, July, 1999

Condemnation Appraising:
Basic Principals and Applications
Appraisal Institute, March, 1999

Condemnation Appraising:
Advanced Topics and Applications
Appraisal Institute, March, 1999

Litigation Skills for the Appraiser:
Appraisal Institute, April, 2000

General Applications:
Appraisal Institute, June, 1997

Basic Income Capitalization:
Appraisal Institute, April, 1997

Basic Valuation Procedures:
Appraisal Institute, May, 1992

EDUCATION: (cont.)

Residential Valuation:
American Institute of Real Estate Appraisers, January, 1988

Real Estate Appraisal Principles:
American Institute of Real Estate Appraisers, October, 1987

PROFESSIONAL DESIGNATIONS:

MAI, Appraisal Institute, August, 2003
SRA, Appraisal Institute, August, 1992

STATE CERTIFICATION:

State of Montana Certified General #152, Issued June, 1999
State of Montana Certified Residential #152, Issued July, 1992

TYPICAL APPRAISALS:

Multi family, office, retail, special purpose, subdivisions and vacant land, eminent domain.

CONTINUING EDUCATION WITH APPRAISAL INSTITUTE (past 15 years):

Analyzing Operating Expenses, March, 2012
USPAP Update Course, January, 2012
Attacking and Defending an Appraisal in Litigation, May, 2011
Discounted Cash Flow Model, October, 2010
USPAP Update Course, February 2010
Appraisal Curriculum Overview, September 2009
Business Practice and Ethics, January 2009
Office Building Valuation, September 2008
USPAP Update Course, January 2008
Effective Appraisal Writing, March 2007
Subdivision Valuation, September 2006
Business Practice and Ethics, March 2006
Scope of Work, September 2005
Evaluating Commercial Construction, September, 2004
Separating Real and Personal Property, October, 2003
Standards for Federal Land Acquisitions, January 2003
Partial Interest - Undivided, April 2002
Standards of Professional Practice, Part C, January 2002
Partial Interest--Divided, September, 2001
Partial Interest--Undivided, April, 2002
Marshall & Swift Valuation Guides, May, 2000
Data Confirmation Methods
Small Hotel/Motel Valuation
Eminent Domain and Condemnation Appraising

* Education Chairman, Montana Chapter of the Appraisal Institute, January, 1996 to September, 2000.

* Appointed to National Educational Programs Committee, Appraisal Institute, 1999 to 2002.

* Vice President, Montana Chapter of the Appraisal Institute, 2004 - 2005.

* President, Montana Chapter of the Appraisal Institute, 2006-2007

* Finance Officer for Region 1 of the Appraisal Institute, 2009-2013

CLIENTS:

State of Montana, Department of Transportation
U. S. General Services Administration
Albertsons, Inc.
Montana Fish, Wildlife, and Parks
Lolo National Forest
WGM Group–Engineering Firm
Robert Peccia & Associates–Engineering Firm
Montana Tech College
Montana Board of Investments
City of Helena
Lewis and Clark County
Helena School District #1
Jefferson County
Northwestern Energy - Montana Power Company
Southern Montana Electric
State of Montana, Department of Military Affairs
Louisiana Pacific Corporation
Diocese of Helena
Toyota Financial Services
CB Richard Ellis
Wells Fargo Bank
US Bank
Valley Bank of Helena
Rocky Mountain Credit Union
Whitefish Credit Union
Mountain West Bank
Glacier Bank
Commonwealth Land Title Insurance Company
Prickly Pear Land Trust
The Trust for Public Land
Numerous private investors and attorneys.

FORDE NURSERY

July 20, 2016

Re: Fox Solar, LLC
Solar Project
5301 Flood Road
Great Falls, MT

PURPOSE

I have been asked to give my expert opinion as to the feasibility of using trees and shrubs to screen the proposed solar project from adjacent homes and residential lots.

OBSERVATIONS

This week, I inspected the project location, checked and plotted elevations in the surrounding area, and reviewed the projects proposed landscape plan. Where the project is to be located is in a low area—with an average elevation of approximately 3420 feet—surrounded on all sides by higher terrain. The rise to the south and north is slight but to the west, where the housing developments of Henrys Lane, Larkspur, and Spring Tree are located, the elevation rises over 300 feet. The Molnar home to the east, adjoining along the southern end of the east property line of the proposed project, sits approximately 75 above the lowest point of project land.

ANALYSIS

The project owner has proposed using Ponderosa Pine for the tallest tree in the landscape plan they have submitted. Ponderosa Pine is a very good choice for our climate and conditions but a mature size of 100', as listed on the landscape plan, is not realistic in our area.

In his book, *Manual of Woody Landscape Plants*, Michael Dirr lists the average height of Ponderosa Pine as 60 to 100' with a width of 25 to 30'. Conditions would need to be nearly perfect to reach 100' and Great Falls is far from perfect when it comes to growing trees. Because of the low rainfall (under 15" per year), strong winds, and heavy soils in the area of the proposed solar plant, I believe, a more reasonable expectation would be 60 to 75'.

The expected growth rate for Ponderosa Pine varies from around 9" per year in poor growing conditions to 24" per year in excellent growing conditions. Water being a critical need, and given the fact that no irrigation system is proposed to maintain the plantings, I would expect somewhere between 12 to 18" per year at most. Michael Dirr estimates, given average growing conditions, that it would take between 40 and 50 years to reach 75'.

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E-mail: mail@forde-nursery.com • www.forde-nursery.com

FORDE NURSERY

PROJECTIONS

The Henrys Lane development is located directly west of the proposed solar project across Flood Road. The homes on the higher end of the development sit .3 miles away and about 75 feet above the project land. The Ponderosa Pine would have to reach a height of approximately 40' in order to completely screen the view of the panels. Starting with the proposed 8' pine and using the projected average growth rate, this would take 21 to 32 years

Approximately, one mile to the southwest, where a majority of the Spring Tree development homes are located, it would take 35 to 45 years to completely screen the solar panels.

From the lots on the northern end of Spring Tree and from the Larkspur development, located .4 miles west and about 225' above the project land, the panels would be impossible to screen. Even if the pines were to reach 100', which would take 60 to 90 years, almost one quarter of the panels would still be visible.

The Molnar residence on Fox Farm Road is adjacent to and sits above the proposed solar project, about .2 miles east. The pines planted along the east property line would be at the lowest point on the property and the panels would rise to the west. It would be between 39 and 59 years before the panels would be completely screened from the Molnar home.

In the areas where the pines could eventually reach the height to provide screening, they still would not do so if planted at approximately 85' apart as shown on the plan.

CONCLUSIONS

The notes from the proposed Landscape Buffer Plan indicate there will be no irrigation system and that watering is to be "accomplished with hand water applications." Given that fact, I would expect the growth rate in years for the pines to be on the slow (high) end of the range. If a long term irrigation and maintenance plan is established, then we could expect growth closer to the low end of the range in years.

And finally, in order for one to expect the pines to provide 100% screening, one must assume a 100% survival rate for the trees. That is not likely in our area. Let's hope we do not see another Mountain Pine Beetle epidemic.

For the above reasons, I do not think the plan is feasible nor can one reasonably expect the solar project to become invisible in most of our lifetimes.

GARDEN CENTER • LANDSCAPING • DESIGN • MAINTENANCE
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FORDE NURSERY

Credentials

- Bruce Forde is president of **Forde Nursery, Inc.,** a design/build landscape firm and retail nursery located in Great Falls, Montana, which he established in 1980.

- Forde has worked in the nursery and landscaping industry since 1973. He studied horticulture and landscape design at **North Dakota State University** and graduated with a Bachelor of Science degree in 1980.

- A member of the **Montana Nursery and Landscape Association** since 1981, Forde is a past president of the **MNLA** and served on the board of directors for 5 years.

- Forde has served on the **City of Great Falls Design Review Board**, **Park and Rec Master Plan Committee** for the City of Great Falls, **Great Falls Development Authority Board of Directors, Re-Leaf Great Falls Planning Board,** and the **Cascade County Weed and Mosquito Board**.

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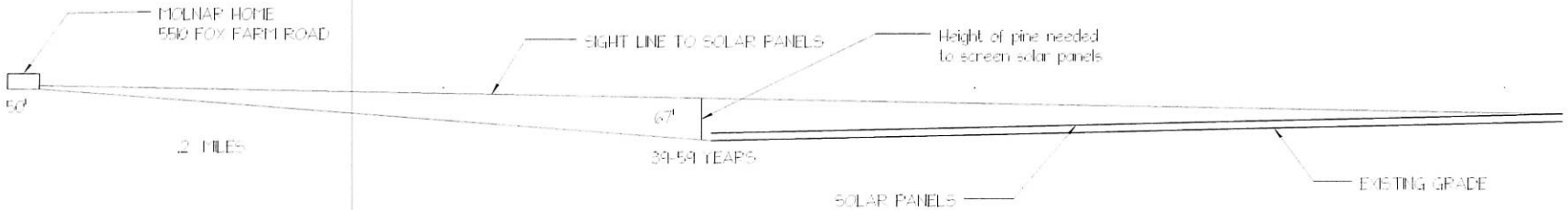
FOX SOLAR PROJECT



The data from the previous page is summarized below to help illustrate the impact on value from the solar farm:

Matched Pair Summary

	Adjoins Solar Farm		Nearby Solar Farm	
	Average	Median	Average	Median
Sales Price	$253,600	$253,000	$246,000	$249,000
Year Built	2013	2013	2014	2014
Size	3,418	3,400	3,189	3,346
Price/SF	$74.27	$74.41	$77.85	$74.46

Percentage Differences

Median Price	-2%
Median Size	-2%
Median Price/SF	0%

2. Matched Pair C – Wagstaff Farm, Roxboro, NC (Kirkland Analysis)

This solar farm is located at the northeast corner of a 594-acre farm with approximately 30 acres of solar farm area. This solar farm was approved and constructed in 2013. After approval, 18.82 acres were sold out of the parent tract to an adjoining owner to the south. This sale was at a similar price to nearby land to the east that sold in the same time:

Type	TAX ID	Owner	Acres	Present Use	Date Sold	Price	$/AC
Adjoins Solar	0918-17-11-7960	Piedmont	18.82	Agricultural	8/19/2013	$164,000	$8,714
Not Near Solar	0918-00-75-9812 et al	Blackwell	14.88	Agricultural	12/27/2013	$130,000	$8,739

Conclusions

After reviewing the market data available, considering market participant sentiments, and analyzing the nature of the proposed project, the subject properties, and the neighborhood, the appraiser concludes that the proposed project represents a use that can be harmonious within the subject neighborhood. Although it is most probable that some, or even many market participants would have a negative impression of a project as large as the subject proposed projects, many others will not be negatively impacted, and some may even desire to have a project such as this near them. It is commonly the case that some influences have profound negative impact on some buyers, while others are not bothered at all. The appraiser has seen this dynamic with overhead power lines and other issues. Still others may simply like being next to a solar farm for their own political perspective, even while others have the opposite reaction.

Some specific additional consideration involves spacing between panels and houses, and that the impact is very likely higher the closer houses are to panels. In the case of the subject project, surrounding houses are typically not very close to the proposed panels, and often, the houses are set in locations where the views over the panels are already subject to visual impact from the power lines running over the subject. The one exception may be

related to the residential property on the west side of the Neff property, at the southwest corner of the property. However, the project would be on the east side of that property, away from the views toward the mountains, which would largely mitigate the impact.

The appraiser concludes that solar farms are likely to be compatible uses with adjoining residential and agricultural uses, particularly in areas where the surroundings are already altered from their natural state. It is likely that a solar farm would have a negative impact on specific property values in cases where the nearby property has an exceptional, unblemished view of the Cascades or a river. However, assuming reasonable landscaping allowance and distance from houses, a solar farm such as that planned for the subject is not likely to have a significant impact on the neighborhood's marketability, particularly considering the current state of the land. . However, this conclusion assumes a setback of at least 150' from the solar panels to residential uses, a landscape buffer and privacy fence (with trees)), and good design.

Respectfully submitted,

Gregory W. Moore, MAI
President, AGCO – Moore Valuation, Inc.
Oregon State Certification No. C000607 / Washington State Certification No. 1102251
July 21, 2015

MOORE APPRAISALS INC.
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t

June 23, 2016

Amy Berg Pickett
NW Zoning Manager | Outreach
Cypress Creek Renewables
2660 NE Hwy 20, Suite 610- #30 | Bend, Oregon 97701

Re: Fox Solar and Portage Solar sites impact on surrounding property values

Dear Ms. Pickett;

At the request of your attorney, Mr. Wiley Barker of the Crowley, Fleck law firm here in Helena, I have read the Solar Impact Study completed by Mr. Richard Kirkland Jr., MAI to provide you with my opinion of the data included in the report in relation to your proposed projects in Great Falls. The Kirkland study was completed in January of this year on the Eagle Point Solar Project out of Central Point Oregon, with the goal being to determine the impact (if any) on the surrounding properties due to a proposed solar farm to be constructed on 67+ acres. In his report Mr. Kirkland analyzed similar projects from around the country as the basis for his conclusions, most of those being in his home state of North Carolina and Oregon, although several others were discussed including a large site in Tennessee. In a phone conversation with Mr. Kirkland he noted that he has now studied over 200 solar projects around the country to determine their impact on surrounding property.

One of the issues that is addressed in the report is the makeup of adjacent land uses. The Portage project you are proposing is located on the south/east portion of Great Falls, lying outside the city limits. My research shows that there are 17 adjacent lots to the subject with a total of 38,820,960 square feet. Of that total, just over 91% (35,617.251 acres) of the land is agricultural in use, (this includes the Great Falls Cemetery property that is currently vacant). The remaining 8+/-% (3,203,709 acres) is residential, while 70% of the 17 individual lot numbers are residential in use (12 lots) with just under 30% (5 lots) being agricultural. Obviously, the agricultural lots are much larger than the residential uses containing the vast majority of land in the surrounding properties.

The Fox project, in the west/central part of the city, again outside of the city limits, is surrounded on all sides by primarily large lot residential uses, although there is a Northwestern Energy substation just south of the site as well as being bordered on the west by Burlington Northern Rail Road tracks. (Adjacent uses noted above include those properties to the west of the tracks.)

The Portage project is much more typical of the sites noted in Mr. Kirkland's report, with a mixture of residential and agricultural uses adjoining the solar farm site, although a number of other projects studied were surrounding or nearly surrounding by residential uses. In those instances, the distance from the panels to the residential uses was typically increased from 50 to 100' to over 150'. In addition, landscape screening was also typical.

In reading the Kirkland study, it is obvious that there is a much larger amount of data available from Oregon and North Carolina than we have access to in Montana. Solar farms are a fairly recent phenomenon in our state, although a recent Billings Gazette article notes that there are over 100 projects in the planning or construction stages. It is my understanding that your company alone has five projects in process at present in Great Falls, Helena, Missoula and Hardin.

The most significant portion of the Kirkland study was his use of paired sales analysis to support his findings. Utilizing sales from four different locations, the study researched and analyzed sales of single family properties adjacent to and nearby solar farms, expanding that research to sales that occurred prior to the announcement of the farms, sales that occurred after the announcement of a project and those that closed after the projects had been completed. In each of the four projects included in the report, there was no supportable impact on property values to the adjacent or surrounding properties. The study did note that in more densely populated areas, setbacks and landscape screening was used to mitigate any potential adverse impacts. It should also be noted that the report included discussion of projects of various sizes, near single family properties with values ranging from around $130,000 to over $2 million. In no instance was there a supportable impact on property values that could be attributed to the construction of a solar farm. My phone conversation with Mr. Kirkland confirmed that in his research of over 200 solar farms from around the county, he has found no supportable negative impact on values in properties adjoining solar farms.

The report also addresses the most common issues from adjoining property's impacting property values. These include hazardous material, odor, noise, traffic, stigma and appearance. In none of these areas did a solar farm have noticeable impacts on adjoining properties.

In examining this issue I have completed research including your project applications and plans, aerial photos of the proposed sites, Cadastral records, consideration of articles and reports from local newspapers, internet stories and the LUM Library (a library supported by the Appraisal Institute, dedicated exclusively to real estate research of all kinds). Given the number of states that have projects of this nature, and the findings of no supportable impact in value on the adjoining properties, I believe it is logical to believe that there would be no substantial impact from the subject properties. In my nearly 30 years of appraising in the Montana market, I have found that it is not unusual to depend on information obtained from other markets, particularly when researching properties that are a new or unusual use in any given area. I understand and agree that Montana is a special place with its own set of influences, however if no influence was found in other states (Oregon and North Carolina) with similar views and mountain amenities, it is unlikely that any supportable adverse impacts would be found in Montana.

After completing my research, I support Mr. Kirkland's conclusions, that there is no support for any impact on the value of surrounding properties and that the proposed projects will not substantially impact the value of adjoining property and, that given the lack of impact from noise, traffic, odor, etc., the proposed developments will be in harmony with the area in which they are located.

If you have any questions regarding this issue, please feel free to contact me.

Sincerely,

Tim J. Moore IFAS

Tim J. Moore, IFAS

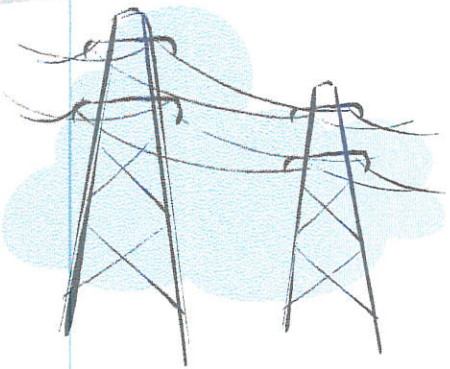
Wind Turbines & Property Value

A presentation by
Kurt C. Kielisch, ASA, IFAS, SR/WA, R/W-AC
President/Sr. Appraiser – Appraisal Group One

Focus on Value

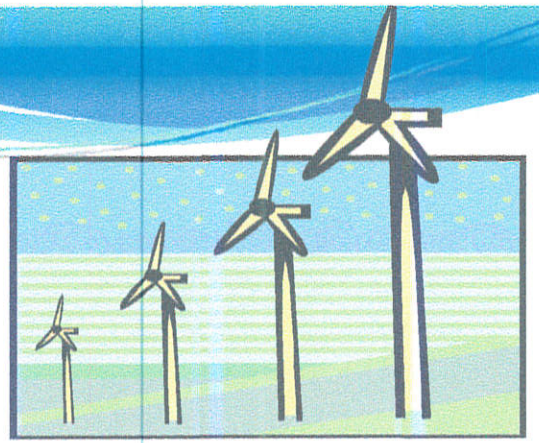
- PERCEPTION = VALUE
  - The key to understanding real estate value is to understand it is based on perception.
  - Perception drives the buying decision.
    - E.g. perceived enjoyment of home.
    - E.g. perceived income stream of investment.
  - Perception need not be based on a proven, scientific fact. (e.g. the haunted house or electric power lines)
  - When the buyer acts on this perception through a buying action you have established value and the effects of this perception.

E.g. Perception of Electric Transmission Lines



Perception	Fact
• They cause health problems especially cancer.	• Not proven as a scientific fact, however the jury is still out and there is published literature on this issue.
• They are noisy.	• Sometimes, depending on humidity, power and distance.
• They are unsightly, and ruin the view shed.	• True both near and far.

Perception of Wind Turbines



Perception	Fact
• They cause health problems though noise and deep ultrasonic sound waves, sleep deprivation.	• Not proven as a scientific fact, however the jury is still out and there is published literature on this issue.
• They are noisy.	• True, depending on wind, size, age and distance.
• They cause light flicker.	• True depending on location and distance.
• They are unsightly, and ruin view shed.	• True both near and far.

What Drives Perception?

- Media
  - Printed media
  - Electronic media
  - Internet

To measure this perception of media we conducted a **Literature Review**

Literature Review

- Health Issues
  - Articles found on health disorders including:
    - Sleep deprivation
    - Headaches
    - Dizziness
    - Anxiety
    - Depression
    - Vibroacoustic Disease (VAD) & Wind Tower Syndrome
  - WHO Community Noise Paper of 1995 counters claims.
  - Doesn't affect everyone.
  - Wind industry has counter claims stating "no health impact."
  - Similar to the EMF issue relating to power lines.

Measuring Perception

- To measure the impact of this perception we did two things:
  - Conducted a Realtor Survey of Realtors who worked in a wind turbine area.
  - Conducted an Impact Study using sales of properties impacted by wind turbines compared to those that were not.

Realtor Survey

Purpose: learn from those in the trenches of buying and selling.

Focus: residential land use, both vacant and improved.

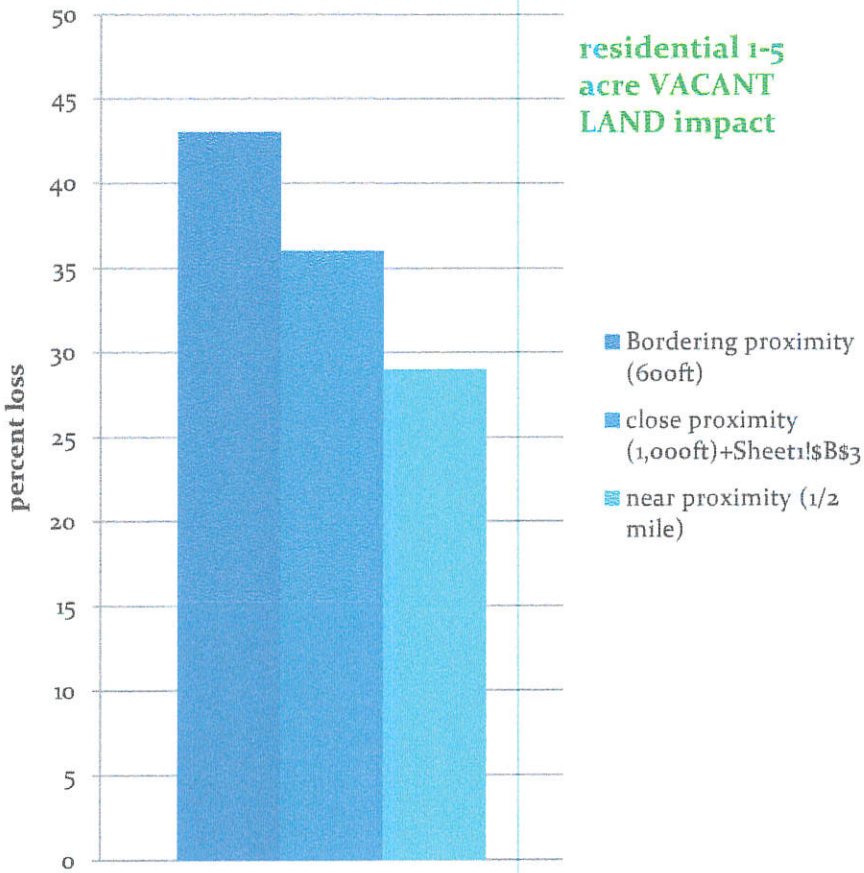
Visual field proximity: 3 different levels...

- 600ft from turbine (border)
- 1,000ft (close)
- ½ mile (2,640ft) (near)

- Survey utilized graphics and pictures to standardize the concept being portrayed.
- Survey used Realtors that were in a wind turbine area.
  - Fond du Lac County
  - Northeast Dodge County
- Surveys were given in person, on-site, verified with date, person's name and contact.

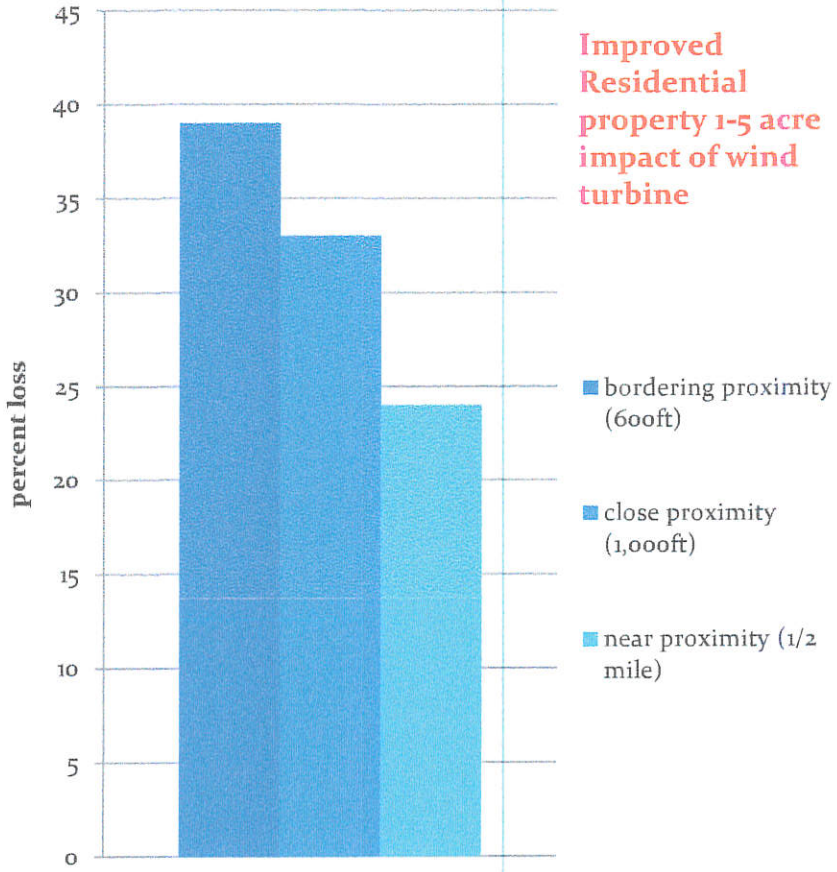
Realtor Survey results . . .

- Question to impact of wind turbine to vacant land:
  - 82% negative if border
    - Loss estimated at -43%
  - 69% negative if close
    - Loss estimated at -36%
  - 59% negative if near
    - Loss estimate at -29%



Realtor Survey results . . .

- Question to impact of wind turbine to improved property:
  - 91% negative if border
    - Loss estimated at -39%
  - 86% negative if close
    - Loss estimated at -33%
  - 60% negative if near
    - Loss estimate at -24%



Realtor Survey results . . .

Hobby Farm

- Bordering proximity (600ft)
  - 70% said negative impact
  - 23% said no impact
- Close proximity (1,000ft)
  - 47% said negative impact
  - 47% said no impact
- Near proximity (2,640ft or half mile)
  - 44% said negative impact
  - 47% said no impact

Position of Turbines

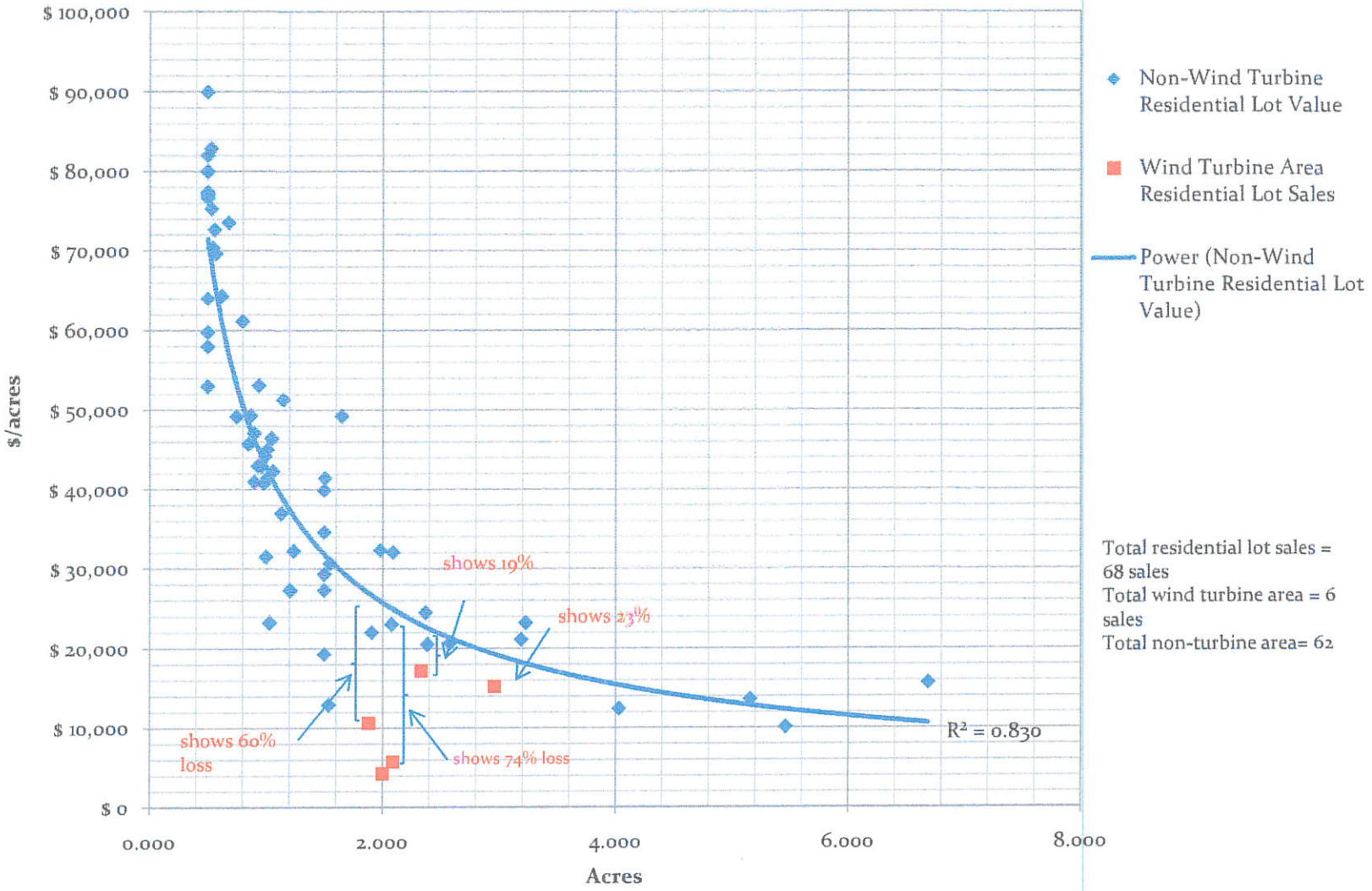
- 83% said the impact was negative if the turbines are in the front yard of a 1-5 acre residential parcel.
- 71% said the impact was negative if the turbines were located in the back yard of a 1-5 acre residential parcel.

Impact Studies

Checking perception with buying action

WE ENERGIES - BLUE SKY GREEN FIELD WIND FARM

1 acre to 8 acre residential land sales -- all sales included



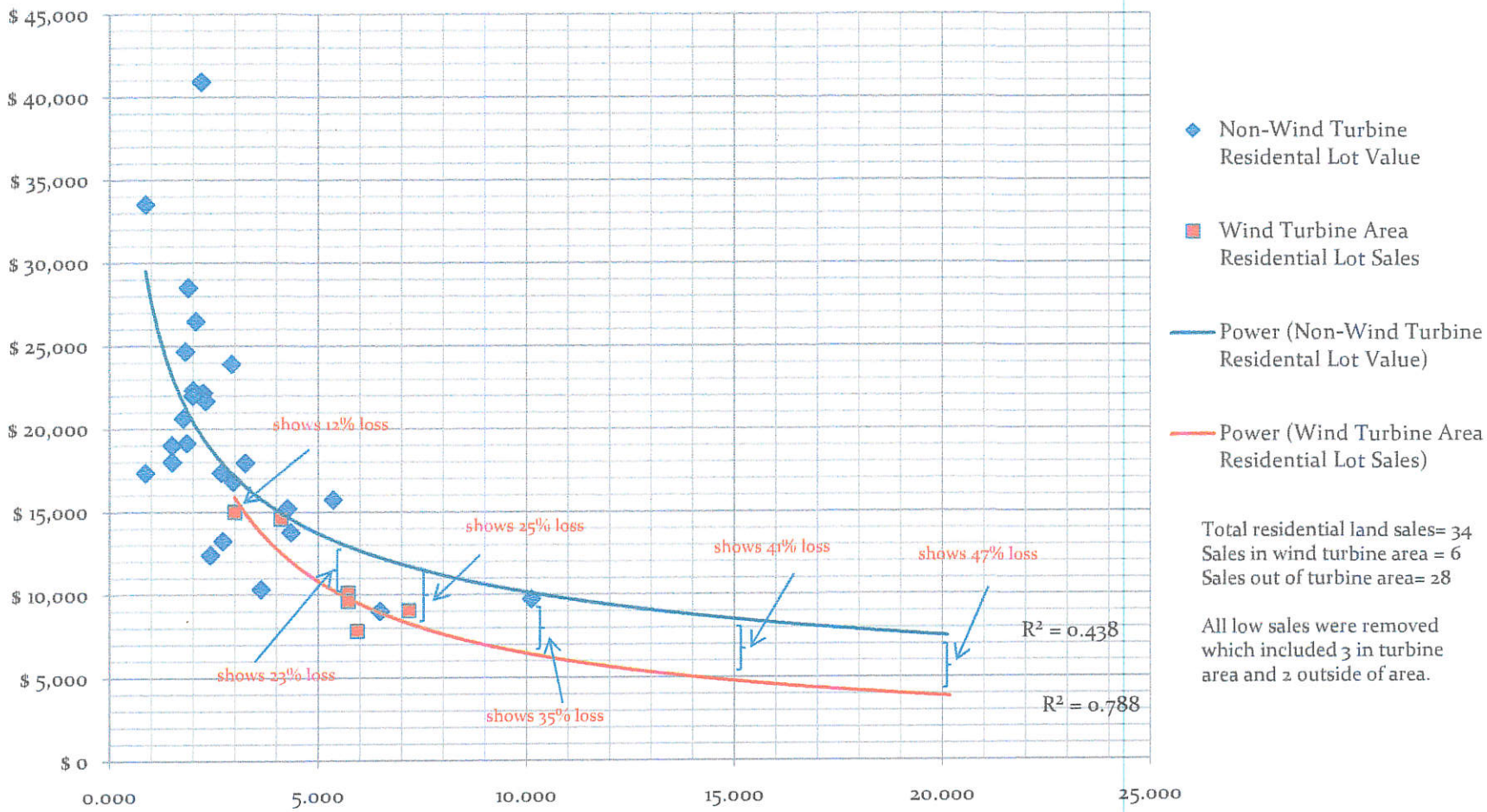
Total residential lot sales = 68 sales
Total wind turbine area = 6 sales
Total non-turbine area= 62

Blue Sky Green Field results . . .

- Sales within the wind turbine area sold for less than comparative sales outside of the turbine area.
- There were substantially less sales available within the wind turbine area than outside of it.
- The impact of the wind turbines on vacant residential land is in the range of -19% to -40%.
- This loss range corresponds with the Realtor survey.

INVENERGY - FORWARD WIND FARM

1 acre to 20 acre residential lot sales -- low sales removed



Total residential land sales= 34
Sales in wind turbine area = 6
Sales out of turbine area= 28

All low sales were removed which included 3 in turbine area and 2 outside of area.

Forward Wind Farm results . . .

- Sales within the wind turbine area sold for less than comparative sales outside of the turbine area.
- There were substantially less sales available within the wind turbine area than outside of it.
- The impact of the wind turbines on vacant residential land is in the range of -12% to -30%.
- This loss range corresponds with the Realtor survey.

Conclusion of Perception of Wind Turbines Impact to Property Value

1. Media has reported on negative health issues and value issues influencing a negative perception.
2. Realtor survey indicated that these perceptions are real in the market.
3. Impact studies suggest the values are substantially negatively impacted in the range of -12% to -40%.
4. The further away, the less the impact.